

APPENDIX II: PROGRAM FOR THE MEETING IN COPENHAGEN 2000

SUNDAY, MAY 7, 2000

18:00

Delegates/participants gather in the Komfort Hotel, Copenhagen

18:30-21:00

Reception, registration and get-together at Danish Design Centre,
H C Andersens Boulevard 27 (5 min. walk from Komfort Hotel)

Welcome:

Dr. Subhas Sikdar, Pilot Study Director
U.S. Environmental Protection Agency
National Risk Management Research Laboratory
Cincinnati, Ohio, USA

Associate Professor Henrik Wenzel
Institute of Product Development/
Department of Manufacturing Engineering
Technical University of Denmark, Lyngby, Denmark

MONDAY, MAY 8, 2000

08:30

Arrival, Coffee/Tea - Association of Danish Engineers' Conference Centre

08:45

Welcome – *Dr. Subhas Sikdar*, Pilot Study Director

09:00

Introduction round of country delegates and participants

09:30

Overview of Meeting Agenda, Field Visits and Events. *Daniel Murray*, Pilot Study Co-Director

09:45

Break – Coffee/Tea

MORNING SESSION ORIENTATION: ENGINEERING SKILLS, TECHNIQUES AND TOOLS

10:00

Engineering for Sustainable Development – an Obligatory Skill of the Future Engineer.

Invited speaker: *Dr. Leo Alting*, director of Institute for Product Development, and professor at the Department of Manufacturing Engineering, Technical University of Denmark.

10:30

Pilot Project Updates (20 minutes each)

- **Pollution Prevention Tools**, *Subhas Sikdar*, USA
- **Water conservation and recycling in Semiconductor Industry: Control of Organic Contamination and Biofouling in Ultra Pure Water systems**, *Farhang Shadman*, USA, *Mike*

Larkin and Jim Swindall, UK

11.10

Membranes in Process Intensification and Cleaner Productions. Invited speaker: *Dr. Enrico Drioli*, Professor at Department of Chemical and Material Engineering, University of Calabria, Italy

11:40

Departure for lunch at the City Hall of Copenhagen (walking distance of conference centre)

12:00

Copenhagen City Hall. Welcome by Copenhagen Major of the Environment, Mr. Bo Asmus Kjeldgaard. Lunch buffet followed by a tour of the City Hall.

13:10

Departure for the conference centre

13:30

Tour-de-Table presentations (15 minutes each)

Spain, Greece, United Kingdom, Denmark

14:30

Break – Coffee/Tea

AFTERNOON SESSION ORIENTATION: CLEANER PRODUCTION DISSEMINATION

15:00

Approaches to Cleaner Production in economies in transition – the results and perspectives of the Cleaner Production Centres. Invited Speaker: *Vladimir Dobes*, Czech Cleaner Production Centre, Czech Republic

15:30

Tour-de-Table presentations

Poland, Czech Republic, Slovak Republic, Moldova

16:30

Technology dissemination – discussion. Moderator: *Vladimir Dobes*

POSTER- AND COMPUTER TOOL CAFÉ

17:00

Coffee/Tea and sandwiches. Beers and soft drinks will be for sale.

- **Chemical Life Cycle Database**

Michael Overcash, USA

- **CAPEC software tools for chemical and process system engineering**

Peter Harper, Denmark

- **FIBRESAVE Integrated Environmental Information System**

João Dias, Portugal

- **The EDIP LCA tool**

Morten Als Pedersen, Denmark

- **Paris II – environmentally friendly chemical substitution in industry**

Dan Murray, USA

- **Application of Life Cycle Assessment and Sustainable Process Index to Process Design.**

Teresa M. Mata and Carlos A. V. Costa, Portugal

19:00

Adjourn

TUESDAY, MAY 9, 2000

08:30

Arrival, Coffee/Tea - Association of Danish Engineers' Conference Centre

09:00

Computer Aided Molecular Design Problem Formulation and Solution: Solvent Selection and Substitution. Invited speakers: *Rafiqul Gani* and *Peter Harper*, Department of Chemical Engineering, Techn. University of Denmark

09:30

Tour-de-Table presentations

Israel, Italy, Turkey, Portugal

10:30

Break – Coffee/Tea

10:45

Pilot Project Updates

- **Nato/CCMS Project Members Evaluation of Cleaner Production,**

Michael Overcash, USA

- **Clean Processes in the Turkish Textile Industry,** *Nilgun Kiran, Turkey*

- **Energy efficiency in Moldova,** *Sergiu Galitchii, Moldova*

11:45

Tour-de-Table presentations

Bulgaria, Ukraine, Romania, USA

12:45

Lunch

14:00

The first Step Towards Sustainable Business Practice: The SB (SmithKline Beecham)

Design for Environment Tool Kit. Invited Presentation: *Virginia L. Cunningham*, SmithKline Beecham, USA

14:30

Pilot Project Updates

- **Cleaner Energy Production with Combined Cycle Systems,** *Aysel T. Atimtay, Turkey*

- **CEVI, The Danish Centre for Industrial Water Management,** *Henrik Wenzel, Denmark*

15:10

Break - Coffee/Tea

15:40

Biological Control of Microbial Growth in the Process Water of Moulded Pulp Production

– **Avoiding the Use of Biocides.** Invited speaker: *Gert Holm Kristensen*, DHI – Water and

Environment, Denmark

16:10

Environmental Life Cycle Assessment of Alternative Scenarios for Biological Control of Microbial Growth in the Process Water of Moulded Pulp Production. Invited speaker:

Nilgun Kiran, TUBITAK – Marmara Research Centre, Turkey

UNIVERSITY-INDUSTRY CO-OPERATION – OPTIONAL TUTORIAL

16:30

Mini tutorial on the set-up of university-industry co-operation centres

– do-it-yourself. Invited tutorial: *Dr. Jim Swindall*, Questor Centre, Queens University, Belfast, United Kingdom

17:30

Adjourn

19:00

Banquet at The Tivoli Gardens, restaurant Nimb, Brasserie, the garden lounge

WEDNESDAY, MAY 10, 2000

FIELD TRIP

07:50 – 08:00

Boarding the coach at Komfort Hotel – be there on time

08:00

Departure for the field trip. The coach leaves at 08:00

TECHNICAL UNIVERSITY OF DENMARK

08:30

Arrival at the Technical University of Denmark. The delegation is divided into three groups and guided through the following visits and presentations. Each visit will endure around 30 minutes:

1. Department of Energy Engineering: **New technology for gasification of biomass and new development of the Stirling motor for small scale heat and power co-generation directly on biomass.** Invited demonstrations and presentations: *Ulrik Henriksen* and *Henrik Carlsen*

2. Department of Applied Electronics: **New developments of low energy stand-by function and low energy amplifier.** Invited demonstrations and presentations: *Michael Andersen* and *Nils Nielsen*

3. Department of Manufacturing Engineering: **Newest developments in cleaner surface technology and micro technology.** Invited demonstrations and presentations: *Per Møller*

10:30

Departure from Technical University of Denmark

THE VIKING PERIOD AND MIDDLE AGE

11:15

Visit to Viking Ship Peninsula in Roskilde. Guided tour of the museum

12:00

Traditional Danish Heering&Snaps lunch on the Viking Ship Peninsula

13:00

Departure on a time journey around 1000 years back. Optional choice between three destinations (we recommend first destination):

- The Viking period: sailing on the fjord in a Viking Ship
- The Viking period: visit to the Viking Ship workshop
- The Middle Age: visit to the Cathedral of Roskilde

14:15

Back in present time. Departure from the Viking Ship Peninsula

THE INDUSTRIAL SYMBIOSIS IN KALUNDBORG

15:15

Visit to **Asnæs Power Station**. Invited presentation: *Valdemar Christensen*

16:30

Visit to **Novo Nordic A/S**. Invited presentation: *Anders Brinck Larsen*

18:00

Departure from Novo Nordic, Kalundborg

THE MIDDLE AGE

18:30

Back in the Middle Age. Change to horse-powered vehicle

19:00

Arrival at Dragsholm Castle by horse carriage. Guided tour of the Castle

20:00

Dinner in the hall of knights of the haunted castle of Dragsholm

23:00

Departure for Copenhagen

THURSDAY, MAY 11, 2000

SPECIAL TOPIC DAY: PRODUCT ORIENTED ENVIRONMENTAL MEASURES

08:30

Arrival, Coffee/Tea - Association of Danish Engineers' Conference Centre

08:55

Introduction to special topic day - *Henrik Wenzel*

09:00

The Concept of Eco-design and Results from the Dutch Eco-design Programmes. *Tom van der Horst*, TNO, The Netherlands

09:30

Design for Environment at Danish A/V producer Bang & Olufsen

Case: IcePower[®], new amplifier technology with 80-90% energy reduction. *Jesper Olesen*, Bang & Olufsen A/S, Denmark

10:00

Product Oriented Environmental Measures at Danish pump producer Grundfos. Case: new generation circulator with 40% energy reduction. *Nils Thorup*, Grundfos A/S, Denmark

10:30

Break - Coffee/Tea

11:00

Product Oriented Environmental Measures at Volvo A/B. *Tomas Rydberg*, Volvo A/B, Sweden

11:30

Factor 2 project on telecommunication at Ericsson A/B. *Lars Lenell*, Ericsson A/B, Sweden and *Ulf Östermark*, Chalmers Industriteknik, Sweden

12:00

Industrial Ecology programme at Technical University of Trondheim, Norway, *Annik Magerholm Fet*, NTNU, Norway

12:30

Lunch

13:45

A challenge for modern society: uncoupling growth and pollution. *Steen Gade*, Director-General of the Danish EPA, former Member of Parliament, Denmark

14:15

Green Cotton[®] - Selling Environmental Success. *Leif Nørgaard*, Novotex A/S, Denmark

14:45

Environmental Life Cycle Management at Danish moulded pulp producer Hartmann A/S. *Anna Lise Mortensen*, Hartmann A/S, Denmark

15:15

Break - Coffee/Tea

15:45

The European Person Equivalent: Measuring the personal environmental space. *Michael Hauschild* and *Henrik Wenzel*, Technical University of Denmark

16:15

The Danish product oriented environmental initiative and the international development, *Preben Kristensen*, Head of Division for Cleaner Products, Danish EPA, Denmark

17:00

Summing up/discussion, moderator *Henrik Wenzel*

17:15

Sightseeing and picnic on the old Copenhagen canals. Departure by boat directly from the Harbour front of the conference centre. The first course of this evening's dinner will be served on the boat

18:15

Return to conference centre's restaurant and continued dinner. Adjourn.

FRIDAY, MAY 12, 2000

SESSION ORIENTATION: INTERNATIONAL INFORMATION EXCHANGE

08:30

Arrival, Coffee/Tea - Association of Danish Engineers' Conference Center

09:00

New Pilot Projects

- **International Exchange and Dissemination of Clean Products and Processes**

Information: Within the Pilot Study and to Industry and the Public, *Dan Murray, USA*

09:30

Discussion. Moderator: *Dan Murray*

10:00

Break – Coffee/Tea

10:30

Open Forum on Clean Products and Processes - *Subhas Sikdar*

11:30

Discussion of Future Directions for the Pilot Study - *Dan Murray*

- Themes and Focus for Next Meeting
- Host Country, Location, and Dates for 2001 Meeting

12:15

Summing up and Meeting Wrap Up - *Subhas Sikdar*

12:30

Adjourn and Lunch

INVITATION FOR ACCOMPANYING PERSONS

Accompanying persons are invited to participate in the following events:

May 7, 18:00 – 21:00 Reception

May 8, 11:45 – 13:30 Lunch at City Hall. Departure from the conference centre

May 9, 19:00 – onwards Dinner at Tivoli Gardens, restaurant Nimb

May 10, all day Field trip

May 11, 17:15 – onwards Copenhagen canal sightseeing, picnic and dinner

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